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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/686,760	10/12/2000	Toshikazu Nakajima	Q61105	4804

7590 05/13/2004

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2100 Pennsylvania Avenue N W
Washington, DC 20037-3213

EXAMINER

AHN, SAM K

ART UNIT	PAPER NUMBER
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2634

13

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/686,760

Applicant(s)

NAKAJIMA, TOSHIKAZU

Examiner

Sam K. Ahn

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment, received on 3/18/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,9,10 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,9,10 and 12-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 11, filed on 3/18/04, with respect to claims 1, 3, 4, 6, 7, 9, 10 and 12 have been fully considered and are persuasive. The 102(e) rejection of 1, 3, 4, 6, 7, 9, 10 and 12 has been withdrawn.

Claim Objections

2. Claims 1, 3, 4, 6, 7, 9, 10 and 12-24 are objected to because of the following informalities:

In claims 1, 3, 6, 7, 9, 13, 15, 16 and 18, lines 4 and 5, 3, 3, 2, 2, 18, 3, 2 and 2, respectively, delete "correction data" and insert "correction data component".

In claims 1 and 4, lines 7 and 10, respectively, delete "--- power of a ---" and insert "--- power of the ---".

In claims 3, 7 and 9, line 1, respectively, delete "A transmitter ---" and insert "The transmitter ---".

In claim 13, lines 4, 6, 13-14 and 16, delete "base band" and insert "baseband".

In claim 13, line 10, delete "--- RF signal ---" and insert "--- said RF signal ---".

In claim 13, lines 5, 7, 9, 10, 12, and 14, and further in claim 19, lines 5, 6, 8 and 10 delete "and".

In claims 14-18, line 1, respectively, delete "A transmitter ---" and insert "The transmitter ---".

In claims 14, 19 and 20, line 2, 13 and 3, respectively, delete "---transmission level" and insert "--- said transmission level"

In claim 19, lines 4-5, delete "--- said transmission signal generating means ---" and insert "--- a transmission signal generating means ---" as there is no antecedent basis.

In claims 6, 10, 12 and 20-24, line 1, respectively, delete "A distortion ---" and insert "The distortion ---".

In claim 21, line 3, delete "said second storage means" and insert "a second storage means".

In claim 23, line 3, delete "a transmission signal" and insert "said transmission signal".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 112, first paragraph, because the claim is a single means claim.

2164.08(a) Single Means Claim

A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. *In re Hyatt*, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to *Hyatt* is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

Claim 1 recites only a first storage means achieving without combining with another element of means, wherein claims 2, 3 and 7-9 directly or indirectly depend on claim 1.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3, 4, 6, 7, 9, 10 and 12-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 4 and 13, each preamble states a pre-distortion type linearizer and a correction data component. However, the claims do not recite and refer back to the components stated in the preamble, resulting in the claims to be indefinite.

Claims 3, 6, 9, 12 and 14-18 directly or indirectly depend on claims 1, 4 or 13.

Claims 7 and 10 depend on already cancelled claims 2 and 5, respectively.

Claim 19, lines 12-14, recite wherein the address generating means read out a value corresponding to a transmission level from said first storage means, while lines 10-11 recite wherein the address is determined from said transmission level and said instantaneous power. It appears from the specification that the value generated by the address generating means is equivalent to the address that was determined. However, the claim does not clearly recite that the value read out is equivalent to the address generated. Claims 20-24 directly or indirectly depend on claim 19.

Allowable Subject Matter

5. Claims 4, 6, 10 and 12-24 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
6. The following is a statement of reasons for the indication of allowable subject matter:
Present application discloses a transmitter comprising distortion compensating function wherein the transmitter has a first memory with correction data preliminarily stored. Upon detection of temperature of frequency change, the correction data is updated by retrieving correction data from a second memory. However, prior art does not teach a correction data corresponding to a transmission level wherein the correction data is computed corresponding to an instantaneous power and transmission level from the output of a coupler wherein further it is determined from a sum of an alternating current voltage value corresponding to an instantaneous power of a transmission signal and a direct current voltage value corresponding to

power of transmission output signal. Therefore, prior art does not teach or suggest all the elements recited.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsuoka et al. teach predistortion method comprising instantaneous power calculator, memory and coefficient calculating portion and further the transmitted signal is demodulated and digitized for updating coefficients.

Cova teaches predistortion comprising a look up table computed from a combination of modulation signal sample and output signal of power amplifier.

Leyendecker teaches predistortion in a transmitter comprising memory address generator comprised in a predistorter, a look up table, and trainer subsystem receiving input and output of power amplifier and modulation signal sample to compute filter coefficients.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Art Unit: 2634

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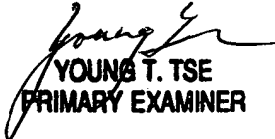
or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn
5/6/04


YOUNG T. TSE
PRIMARY EXAMINER